Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 15 of the	)	ET Docket No. 96-8
Commission's Rules Regarding Spread	)	RM-8435, RM-8608, RM-8609
Spectrum Transmitters	)	
	)	

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Comments of The Ericsson Corporation

The Ericsson Corporation ("Ericsson") by its attorney, hereby submits its comments in the *Notice of Proposed Rule Making* in the above-captioned proceeding.[1] In support of its comments, Ericsson states as follows

Ericsson manufactures Part 15 equipment pursuant to the provisions of Section 15.249 of the Commission's rules. Its comments in this proceeding are limited to issues raised in the NPRM which propose to allow frequency hopping spread spectrum systems operating under Section 15.247 to use only 25 channels and to require such systems to reduce power. As will be set forth in more detail below, Ericsson asserts that the Commission should not reduce the minimum number of channels on which frequency hopping systems operate without imposing certain conditions designed to protect systems which operate at lower power under Section 15.249 of the rules. In support of its comments, Ericsson states as follows:

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[1] *In the Matter of Amendment of Parts 2 and 15 of the Commission's Rules Regarding Spread Spectrum Transmitters*, Notice of Proposed Rule Making, FCC 96-36, FCC Rcd __ (released February 5, 1996) (hereinafter "NPRM").

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As a result of interference problems that may occur between wideband, multilateration LMS systems and Part 15 frequency hopping spread spectrum systems, the NPRM proposes to make changes to Section 15.247 of the FCC's rules which have the practical effect of allowing LMS systems and frequency hopping spread spectrum systems to avoid using the same spectrum.[2] To accomplish this, the Commission specifically proposes to allow frequency hopping spread spectrum systems to reduce the number of hopping channels from 50 to 25.[3] It also proposes to change the maximum average time of occupancy on any hopping frequency to 0.4 seconds in any 10 second period rather than 0.4 seconds in any 20 second period.[4] Lastly, the FCC proposes to reduce the maximum power frequency hopping systems are allowed to use from 1 watt to 500 milliwatts.[5]

Despite the benefits that the Commission's proposal may have with respect to interference between wideband LMS systems and frequency hopping spread spectrum systems, the Commission recognizes full well that the chances of interference will be increased as a result of its proposal:

> We recognize that the chance of a collisions with other transmissions, and resulting interference, will be increased since there are a fewer number of hopping channels resulting in a change to the average time of occupancy on any frequency and the crowding of transmissions into less spectrum.[6]

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[2] NPRM at para. 30.
[3] NPRM at para. 33.
[4] NPRM at para. 30.
[5] NPRM at para. 33.
[6] NPRM at para 33.

Ericsson agrees. Thus, to the extent the Commission decides to allow frequency hopping systems to use only 25 hopping channels, Ericsson submits that certain conditions should be imposed on such systems.

First, the rules should be amended to explicitly require frequency hopping systems to use spectrum which is not used by LMS systems. This will serve to ensure that interference between LMS systems and frequency hopping systems is minimized.

Second, the maximum power allowed for Section 15.247 systems should be reduced. However, the power reduction should be substantially greater than the 500 milliwatt limit proposed by the Commission. Instead, the maximum power allowable should be 100 milliwatts. Because Section 15.247 systems and LMS systems are allowed to operate at power levels which are orders of magnitude greater than those used by Section 15.249 systems, Section 15.247 and LMS systems create significant interference to Section 15.249 systems.[7] To minimize the adverse impact on 15.249 systems which will be caused by the reduction in the number of hopping channels, the relative increase in time during which a channel can be occupied and a likely selection of frequency hopping channels which are as far removed from LMS spectrum as possible, Ericsson submits that a 100 milliwatt maximum power limit for Section 15.247 systems is warranted.

Third, the maximum power allowed to be used by Section 15.249 systems should be increased to ameliorate the technical differences and ensure regulatory parity between

[7] Systems operated under Section 15.249 are at a severe disadvantage vis a vis Section 15.247 systems since the maximum allowable power is substantially less. The technical limitations imposed on Section 15.249 systems which are not imposed on Section 15.247 systems also appears to run counter to the oft expressed policy of the Commission to be technology neutral. Clearly, the Commission is not being technology neutral by allowing spread spectrum systems to operate at 1 watt of power while restricting other very efficient systems using digital technology to operate at a mere 0.7 milliwatts. The interference created between spread spectrum systems and Section 15.249 systems can not be technically justified.

Section 15.247 and Section 15.249 systems. Ericsson submits that the FCC should amend Section 15.249 to increase the maximum allowable power using a variation of Itron's formula for calculating the maximum power of systems based on the use of more than one channel.[8] Specifically, Ericsson proposes that the maximum power for a Section 15.249 system be defined as the number of carriers used/50 in watts or 1 watt, whichever is less. Based on this formula, Section 15.249 systems using dynamic channel allocation techniques with between 1 and 4 carriers would be subject to the following maximum output powers:

Number of Carriers	**Maximum Power (milliwatts)**
1	20
2	40
3	60
4	80

Though the power levels for Section 15.249 systems would still be substantially less than those used by LMS and Section 15.247 systems thereby ensuring that no adverse interference will occur to such systems, the increased power levels would make Section 15.249 systems less susceptible to interference created by LMS and Section 15.247 systems. A Commission rule which would allow increased power as described above would also serve to level the regulatory playing field and eliminate the Commission's arbitrary decision to allow Part 15 spread spectrum systems to operate a power levels

[8] NPRM, para. 29.

substantially above those for Part 15 spread spectrum systems which use alternative, albeit highly efficient, technologies.

Respectfully submitted

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